Huron Street Watermain Decommissioning – Thames River Crossing – EIS Results

February 17, 2022

Huron Watermain EIS Addendum

Topics

- EIS Addendum Scope
- EIS results
- Key Ecological Considerations and Potential impacts
- Mitigation Measure and Construction Design Plan

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Background

- 2012 the City of London completed the Huron Watermain Crossing Environmental Assessment (EA)
- identified preferred alternative solution was to install a new watermain crossing the Thames River between Huron Street and Philip Aziz Avenue
- continue monitoring of the abandoned concrete watermain
- City of London has initiated the detailed design for the remediation of the abandoned concrete watermain in the Thames River.
- I2009, an emergency repair was completed which involved placing stone riprap and aggregate over the exposed portion of the watermain and adjacent valve chamber.
- An EIS was completed in 2012 as part of the Huron Street Crossing EA.
- 2021 Update/addendum to the Environmental Impact Study (EIS) undertaken in 2012
- Reviewing alternatives for remediation of the abandoned concrete watermain in the Thames River
- Agency and Stakeholder
- Historical and ongoing monitoring of erosion of the abandoned Watermain (ongoing).

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EIS Scope

- Addendum Terms of Reference EEPAC, London, UTRCA January 2021
- Update the findings of the 2012 EIS/EA to document ecological (terrestrial and aquatic) features in the Study Area,
- Assess the potential impacts to the natural environment of the proposed watermain removal,
- Identify appropriate measures to avoid or mitigate impacts where possible,
- Work closely with the design team concurrently with development of the EIS and incoming details of the site conditions to develop a feasible and effective construction design plan
- Facilitate permitting and other authorizations.

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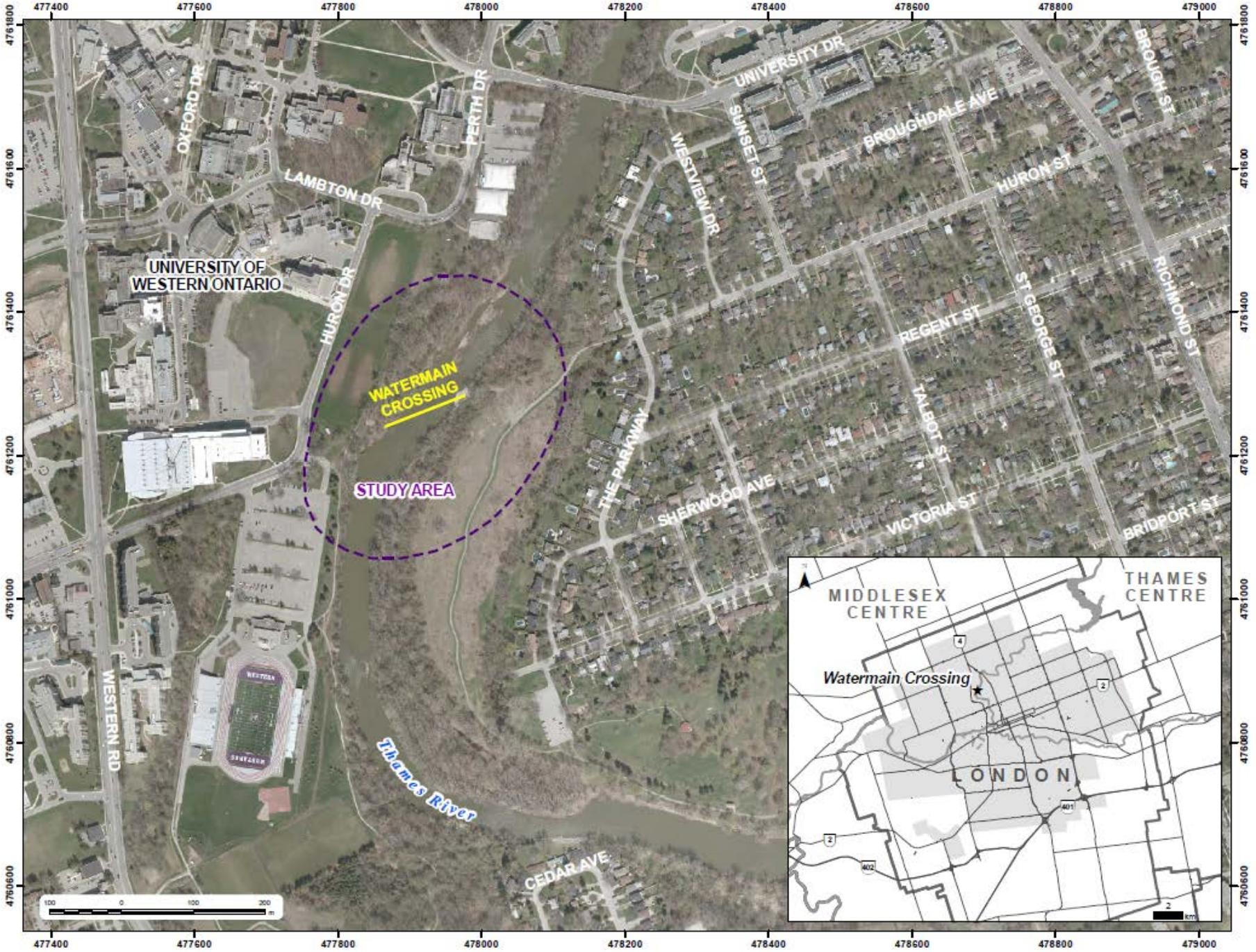
EIS Scope Field Study Program ToR

- Habitat assessment/snag tree inventory for bat species at risk during leaf-off (once, Nov- April)
- Two (2) season flora inventory and vegetation community mapping using Ecological Land Classification (spring and summer)
- Canid survey of known coyote den using trail camera, to confirm activity (May)
- Reptile habitat assessment and basking surveys (five surveys late May to early July), with a focus on Queensnake, Eastern Spiny Softshell and Northern Map Turtle
- Aquatic habitat assessment at low flow conditions (once, July-August
- Mussel habitat assessment at crossing and downstream, to confirm presence/absence and identify potential relocation areas (once, July-August)
- Breeding bird surveys (two surveys, late May to early July)
- Incidental wildlife observations and documentation of wildlife evidence (all site visits)
- Documentation of significant wildlife habitat (SWH) using the Ecoregion (7E) Criteria Schedule (summer)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STUDY AREA
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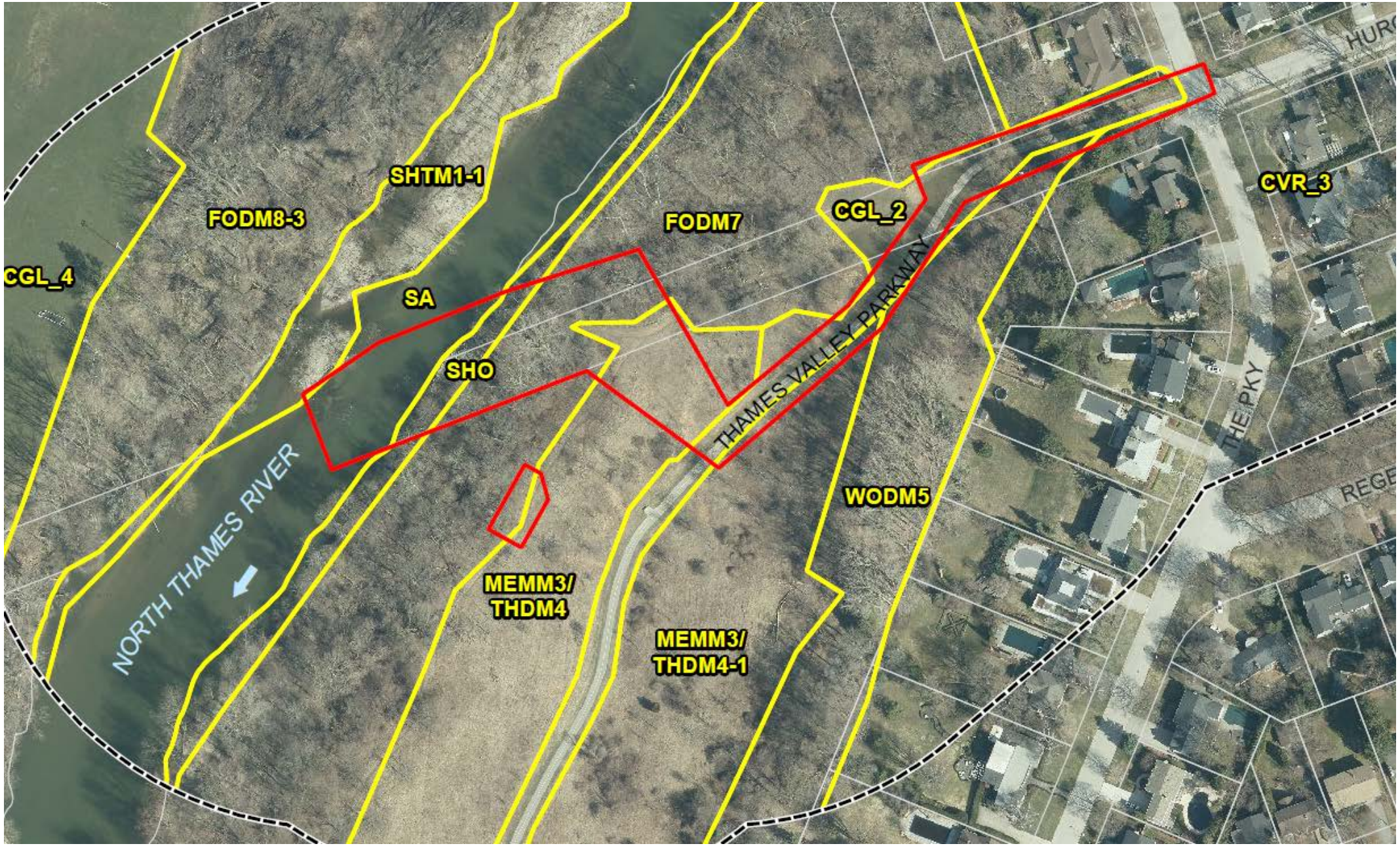
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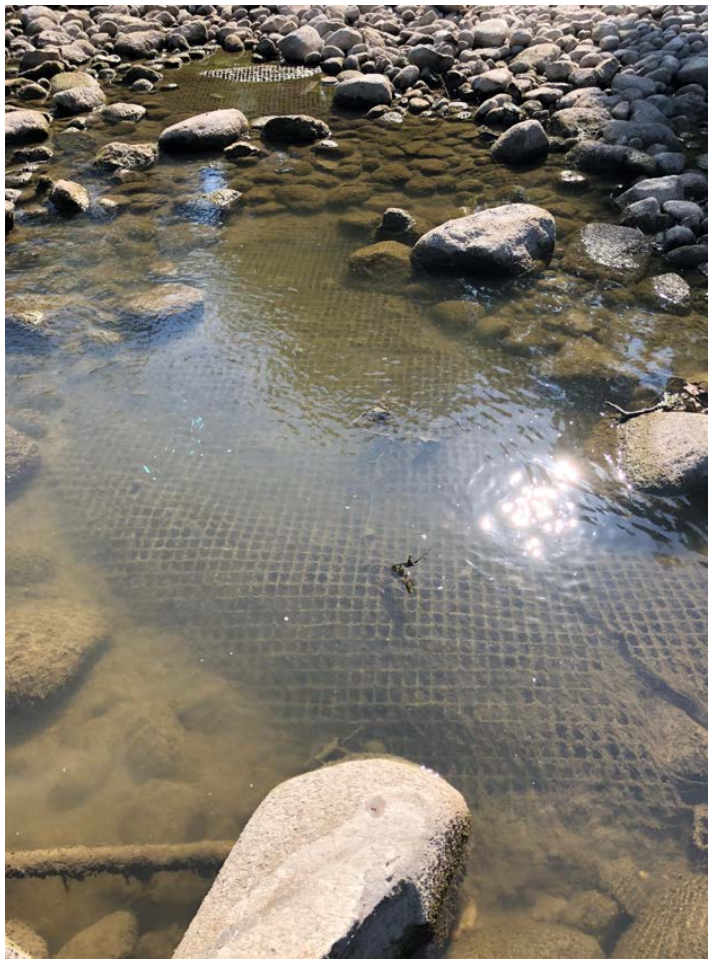
EIS Findings - SAR

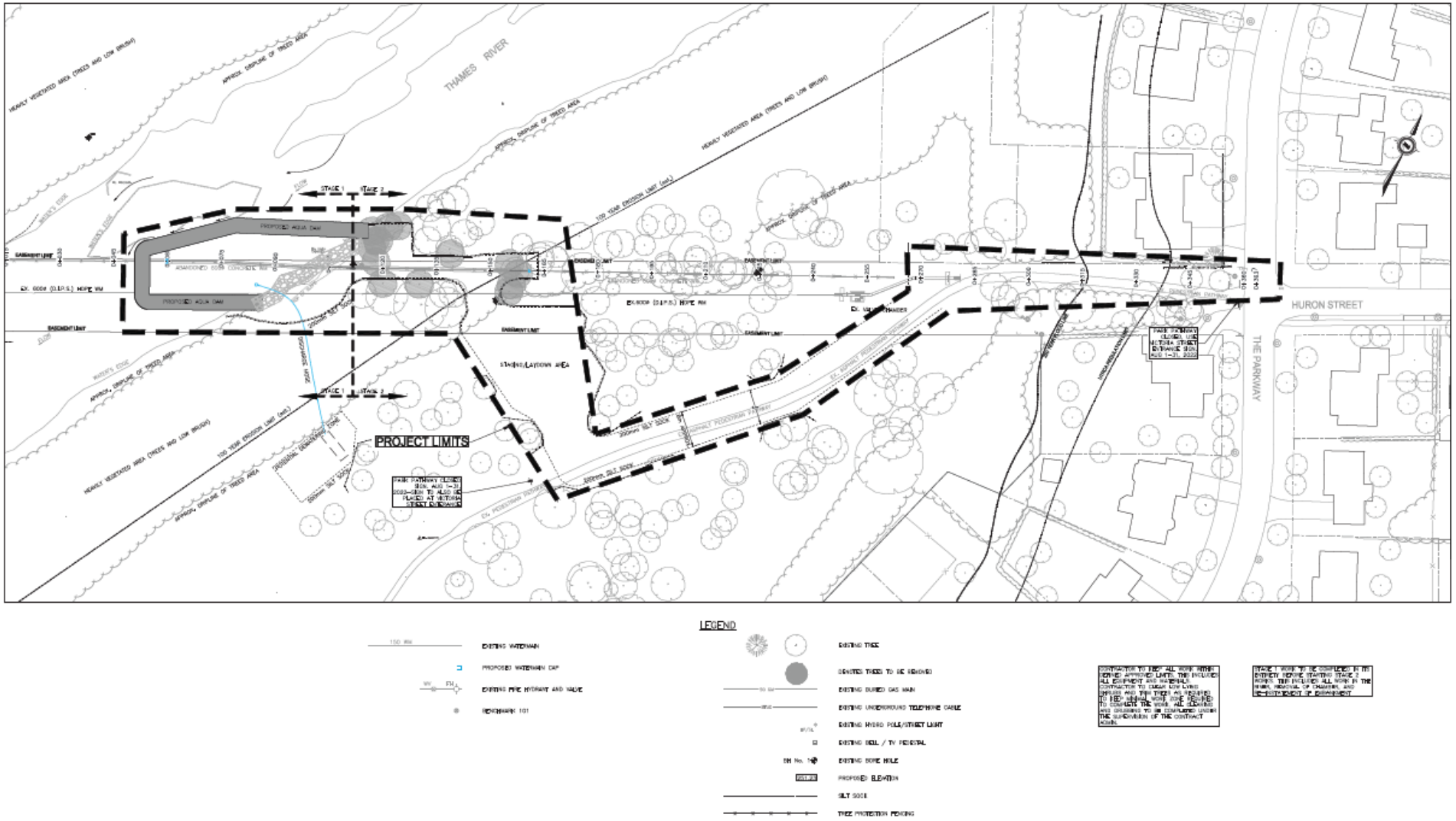
COMMON NAME	SCIENTIFIC NAME	Provincial S-rank	SARO	SARA
Terrestrial Species				
Monarch[1,7,9]	Danaus plexippus	S4B, S2N	SC	SC
Eastern Spiny Softshell[1,2,8]	Apalone spinifera spinifera	S3	END	END
Northern Map Turtle[1,2,8]	Graptemys geographica	S3	SC	SC
Snapping Turtle[1,2,8,9]	Chelydra serpentina	S3	SC	SC
Queensnake[2,8]	Regina septemvittata	S2	END	END
Eastern Wood-Pewee[1,3,10]	Contopus virens	S4B	SC	SC
Small-footed Myotis[4]	Myotis leibii	S2S3	END	
Little Brown Myotis[4]	Myotis lucifugus	S4	END	END
Northern Myotis[4]	Myotis septentrionalis	S3?	END	END
Tri-colored Bat[4]	Perimyotis subflavus	S3?	END	END
Eastern False Rue-anemone[8]	Isopyrum biternatum	S2	THR	THR
Aquatic Species				
Black Redhorse[6]	Moxostoma duquesnei	S2	THR	THR
Silver Shiner[6,8]	Notropis photogenis	S2/S3	THR	THR
Wavy-rayed Lampmussel[1,6,8]	Lampsilis fasciola	S1	THR	SC

2009 – Emergency Rip-Rap Protection and Tree Removal

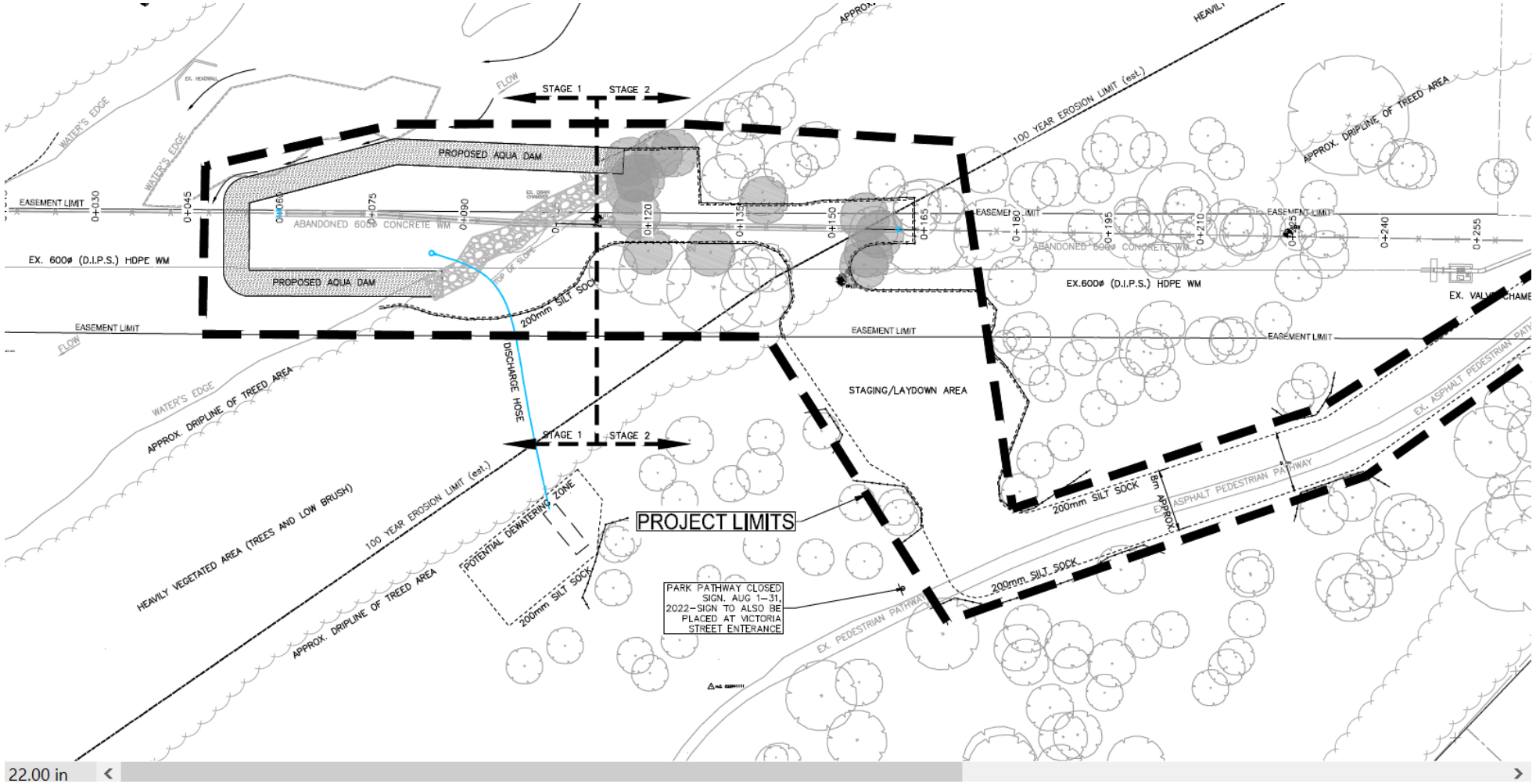
- Riverine erosion causing exposure of the watermain has resulted in an ongoing effort to protect the infrastructure at this site.



Huron Watermain Plan



Huron Watermain Plan



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Permit and Approvals

Regulatory Agency	Applicable Legislation	Permit Type	Permit Application Documents
Department of Fisheries and Oceans	Fisheries Act	Fisheries Act Authorization or Letter of Advice	Request for Review (RfR)
MECP	Endangered Species Act (ESA)	Huron Watermain Removal Natural Heritage Permitting, Standard Authorization or registration of Notice of Activity	Information Gathering Form and Alternative Assessment Form and 17(2)(c) Overall Benefit Application or Registration under Section 23.18 Threats to Health and Safety – Not-Imminent
MNRF	Fish and Wildlife Act	Fish Collection Permit Wildlife Collection Permit	Licence to collect fish for Scientific Purposes Wildlife Scientific Collectors Authorization
UTRCA	Conservation Authority Act	Ontario Regulation 157/06 – Development Interference with Wetlands and Alterations to Shorelines and Watercourse	Section 28 Application

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Vegetation Protection & Mitigation

- Delineate and/or sediment fence the boundaries of the Project work area to avoid accidental encroachment, protect areas of vegetation retention, as well as provide erosion and sediment control
- Monitored and maintained in-place until the end of construction activities
- Implement Clean Equipment Protocol for Industry (Halloran et al., 2013).
- Prepare Protection and Planting Plan - native species diverse selection of locally sourced native plant species to accommodate flood flows, recreation and wildlife migration.
- Stabilized all exposed soils (native seed mixes; sourced locally if possible) and re-vegetated, through the placement of seed and mulching or seed and an erosion control blanket, promptly upon completion of construction activities
- Accommodate paths and pathway connections within the constructed area for recreational purposes

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Wildlife and SAR Protection & Mitigation

ESC erosion control fencing (geotextile fences) are effective for the temporary exclusion of amphibians and reptiles.

Primary principles ESC protection measures:

- (1) minimize the duration of soil exposure;
- (2) retain existing vegetation where feasible;
- (3) encourage re-vegetation;
- (4) divert runoff away from exposed soils;
- (5) keep runoff velocities low; and
- (6) trap sediment as close to the source as possible.

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Specific Mitigation Measures

- Remove vegetation outside the breeding bird window, not between April 3 and August 15
- Geotextile fencing with nylon mesh should be avoided due to the risk of entanglement by snakes.
- Fencing will be installed in accordance with ‘Reptile and Amphibian Exclusion Fencing: Best Practices, Version 1.0’ (OMNR 2013; Appendix F):
- The recommended height of fencing is a minimum of 60 cm and adjusted in consideration of topography. To deter digging it is recommended that the fence be buried 10 cm below grade with an additional 10 cm horizontal lip (‘keyed in’) on the species side
- Re-fuel minimum of 30 m from all watercourses Spill control materials, including absorbent barriers and mats, kept on site to immediately address any accidental spills
- ESC monitored regularly and properly maintained as required. Controls removed only after the soils of the construction area have been stabilized and adequately protected or until cover is re-established
- Disturbed natural areas and the existing hard shoreline area found in the vicinity of the valve chamber should be restored to pre-construction conditions, or new naturalized shoreline
- Silt fencing and/or barriers such as sediment logs (i.e., SiltSoxx™) and or critical habitat appropriate fencing in areas with potential for sedimentation of watercourses or wetlands
- Dust could be controlled by using water instead of chemical suppressants in dust-sensitive areas such as the mapped natural heritage features
- ESC Plan specific to the site will be developed, to be approved by the City and will be kept on site pre and during construction activities

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In-Water Construction Mitigation Measures

- In-water activities have been scheduled outside the restricted activity timing windows for the protection of spring spawning species. In-water activities will be completed between July 15 and March 15 of the following year
- Work will be completed during low flow conditions
- A fish rescue and mussel transfer will be completed by qualified staff under a NDMNRF license to collect fish
- In-water work will be completed in the dry by isolating the work area using an AquaDam water filled coffer dam. (Plan View Construction Plan) Flow will be maintained through the section of the channel that is not isolated
- Water quality monitoring for turbidity (NTU) during in-water construction activities. If the water downstream of the construction activities become visibly turbid then work will be halted, and adjustments made. Water quality & visual observations will be documented.
- All observations of Queensnake, Northern Map Turtle and Spiny Softshell on site should be recorded and submitted to MECP and UTRCA, with any observed fatalities reported to MECP immediately
- In the unlikely event that a Queensnake, Northern Map Turtle or Spiny Softshell enters the work area and is in immediate danger, a 30 m buffer should be placed on the work area and construction activities should cease until the turtle or snake has vacated the work area on its own accord before recommencing construction activity. Alternately, the turtle or snake should be relocated by a qualified biologist if permissible with approval through consultation with MECP
- If a nesting Spiny Softshell is observed or if a turtle nest is identified in the Project Area either during construction or operation of the Project, the MECP should be contacted immediately. A 5 m buffer should be applied to the nest site, or 30 m to a nesting female, and maintained until the MECP provides additional direction. Turtle nests should not be touched as it can damage eggs

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In Water Construction Mitigation Measures (Con't)

- Mussel move using manual method of feeling through the substrate will be used to gather Spiny Softshell's buried in the substrate.
- Critical Timing - AquaDam will be installed as soon as possible following mussel and turtle transfer. Additional racooning will be completed for Spiny Softshell prior to AquaDam installation
- Once AquaDam is installed and prior to working in the area, additional turtle search will be conducted by manual feel through substrate in areas that offer good silty habitat or areas where turtles were observed during the mussel relocation effort
- All persons entering the site to be provided training about Queensnake and Spiny Softshell and proper steps to take upon encountering these individuals. Continual awareness and avoidance of Spiny Softshells nesting on, or crossing, roadways will be encouraged through training programs for those individuals with access to the Project Location
- The relocation timing window based on mussel species and habitat present restricts handling of mussels to a period when water temperatures are above 16°C, which typically occurs between June 15 and September 30 in any given year.
- Follow-up monitoring of relocated SAR mussels one month, one year and two years post-relocation may also be required (Mackie et al. 2008) as a condition of ESA or SARA permitting.

Questions?